

1) How do Americans feel about government help for the poor? In two SRS of 500 American citizens, only 13% think we are spending too much on "assistance to the poor", but 44% think we are spending too much on "welfare."

a) sample = Two SRS's of 500 American citizens

b) sampling frame = Unknown/unsure

c) population = All American citizens

d) statistic = 13%

e) parameter = true feelings of Americans about government help for the poor

f) sampling method = SRS

g) Errors =

Wording of questions

2) A SRS of 425 voters in PA found that 54% of voters will vote for Senator Arlen Specter in the coming election for the state senate seat. The actual value of voters is 56%.

a) sample = 425 voters in PA

b) sampling frame = All registered voters in PA

c) population = All registered voters in PA

d) statistic = 54%

e) parameter = 56% = true percent of voters who will vote for Specter

f) sampling method = SRS

g) Errors = Random Sample Error, possible wording of questions

3) A political candidate is interested in running for mayor of a large town. To see if he would succeed or not he has his staff randomly select a few blocks in the city to survey. The staff then head out in the morning and go to each house in that block to ask the residents if they would vote for the candidate.

a) sample = Residents that the staff talk to

b) sampling frame = All residents of the few blocks selected

c) population = All residents of the town

d) statistic = the % of people that would vote for him in the sample

e) parameter = the true % of people who would vote for him in the town

f) sampling method = Convenience/Cluster

g) Errors =

Undercoverage – only those in the blocks picked can be in the sample; only those at home in the morning can be in the sample

Nonresponse – might not get a lot of answers

Wording of questions?

4) A polling company employs 40 pollsters to conduct phone interviews with randomly selected phone numbers of American citizens. One of the questions asked subjects to rate, from 1 to 5, how the President is doing so far. Jack, an employed pollster, mistakenly thinks that a 1 is bad when it means good. He consistently enters the wrong numbers.

a) sample = People that the pollsters talk to

b) sampling frame = All American citizens with registered phone numbers

c) population = All American citizens

d) statistic = Average rating of how the President is doing, from the people in the sample

e) parameter = True average rating of how the President is doing, from the population

f) sampling method = SRS

g) Errors =

Processing Error – Jack is entering the wrong information

Undercoverage – Not all American citizens have registered phone numbers

Nonresponse - people might hang up or not answer the phone

5) The administration of the school wishes to know what percent of the students have cheated on an exam before. An assistant principal creates an SRS of 100 students from all the grades and calls each down to his office to ask the student if they have cheated on an exam that semester. He found that 99% of the students have not cheated.

a) sample = 100 students

b) sampling frame = All students in the school

c) population = All students in the school

d) statistic = 99%

e) parameter = true % of students who have cheated on an exam before

f) sampling method = SRS

g) Errors =

Response Error – students would lie to the assistant principal

Wording of questions ?

6) The administration of the school wishes to know if parents would like to have an afterschool science program for elementary children. The school sends out 20,000 letters to the parents of elementary children. They receive 149 responses in which 128 said they would like to have the program.

a) sample = 149 parents that responded

b) sampling frame = 20,000 parents sent a letter

c) population = All parents of elementary children at the school

d) statistic = $128/149$ (85.91%) that want the program

e) parameter = true % of parents who want the after school program

f) sampling method = Voluntary Response/Census

g) Errors =

Nonresponse – very small percent responded

Voluntary Response – only those with strong opinions would respond

Wording of questions?